

Appl. No. 10/628,420
Reply to Office Action of 03/27/2006

REMARKS:

The status of the application according to the pending Office Action is as follows:

Claims 1-5, 9-12, and 15-20 are rejected under 35 U.S.C. § 102(b) as being anticipated by Nakel et al. (U.S. Patent No. 4,551,342, Nakel I) as evidenced by Lange's handbook of Chemistry;

Claims 1-3, 6, 9-10, 15-16, and 19-20 are rejected under 35 U.S.C. § 102(b) as being anticipated by Nakel et al. (U.S. Patent No. 4,737,375, Nakel II) as evidenced by Lange's handbook of Chemistry;

Claims 7 and 8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakel et al. (U.S. Patent No. 4,551,342, Nakel I) as evidenced by Lange's handbook of Chemistry and further in view of Dictionary of Food Ingredients 2001;

Claims 13 and 14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakel et al. (U.S. Patent No. 4,551,342, Nakel I) as evidenced by Lange's handbook of Chemistry and further in view of Kuypers (U.S. Patent No. 4,746,527), and further in view of Lee et al. (U.S. Patent No. 5,348,756); and

Claims 21-22 are withdrawn from consideration.

In view of the above amendments and the following remarks, Applicant respectfully requests reconsideration and withdrawal of all grounds of rejection, and the passage of the above-identified claims to allowance.

1. Claims 1-5, 9-12, and 15-20 are rejected under 35 U.S.C. § 102(b) as being anticipated by Nakel et al. (U.S. Patent No. 4,551,342, Nakel I) as evidenced by Lange's handbook of Chemistry.

Nakel I discloses a composition containing the edible acid component of phosphoric acid, malic/citric acid or citric/phosphoric acid, or preferably a mixture of citric, malic and phosphoric acid (see Nakel I, column 7, lines 3 to 7). Nakel I does not disclose adipic acid as a component of the composition.

Appl. No. 10/628,420

Reply to Office Action of 03/27/2006

In contrast, the currently amended independent claim 23 recites "A method of improving the stability of a lemon/lime flavored beverage comprising the steps of: (a) including in the lemon/lime flavored beverage an acidulant system consisting of (i) citric acid and (ii) adipic acid having a smaller dissociation constant than citric acid; ... wherein the ratio of said adipic acid : said citric acid is 1 :15 to 1 : 3", and the currently amended independent claim 24 recites "A method of improving the stability of a lemon/lime flavored beverage comprising the steps of: (a) including in the lemon/lime flavored beverage an acidulant system consisting of (i) a combination of phosphoric acid and citric acid and (ii) adipic acid having a smaller dissociation constant than both phosphoric acid and citric acid; ... wherein the ratio of said adipic acid : said phosphoric acid : said citric acid is 3.0-4.0 : 1.4-2.0 : 1.0". The claimed invention discloses an acidulant system of a lemon/lime flavored beverage containing adipic acid. The ratios of adipic acid to citric acid or citric/phosphoric acid are further specified.

With respect to new claims 23 and 25, which correspond to Applicant's original claims 4 and claim 5, respectively, the Examiner calculated A values with the formula taught by Nakel I using the "organic acid : citric acid" ratios disclosed by the claimed invention. The obtained A values fell within the accepted acidity range disclosed by Nakel I, the Examiner then concluded that the "organic acid : citric acid" ratios of the claimed invention were anticipated by Nakel I.

Applicant respectfully disagrees with the Examiner. Nakel I does not disclose adipic acid, and adipic acid is not included in the formula of Nakel I that the Examiner used for his calculation. An A value would not be obtained in the presence of adipic acid without malic acid. Most importantly, "As in all determinations under 35 U.S.C. section 103, the decision-maker must bring judgment to bear. It is impermissible, however, simply to engage in a hindsight reconstruction of the claimed invention, using the applicant's structure as a template and selecting elements from references to fill the gaps." See *In re Gorman*, 933 F.2d 982, 18 USPQ2d 1885 (Fed. Cir. 1991). "When prior art references require selective combination by the court to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gleaned from the invention itself." See *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143 (Fed. Cir. 1985). The Examiner relied upon the claimed invention to arrive at two specific A values that are within the range taught by Nakel I, however, this is not an

Appl. No. 10/628,420
Reply to Office Action of 03/27/2006

arrival at the claimed invention by one of ordinary skill in the art when provided with the Nakel I disclosure without recourse to the Applicant's specification. In fact, even if the amount of phosphoric acid is taken as zero and the A value is set as 9.78 or 9.62 as in the Examiner's calculation, the range of organic acid : citric acid ratio can be hardly determined since the amount of either the organic acid or the citric acid can be as low as zero.

A claim can be rejected under 35 U.S.C. § 102 only if each and every element in the claim is disclosed in a single reference. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. Inc. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "... anticipation requires that each limitation of a claim must be found in a single reference." *Teleflex, Inc. v. Ficosa North American Corp.*, 299 F.3d 1313, 63 USPQ2d 1374 (Fed. Cir. 2002)

Applicant respectfully submits that Nakel I fails to disclose an acidulant system consisting of citric acid or a combination of phosphoric acid and citric acid and adipic acid. Nakel I further fails to disclose the ratios of adipic acid : citric acid and adipic acid : phosphoric acid : citric acid. Therefore, Nakel I does not disclose, either expressly or inherently, each and every element of the claimed invention. Nor would one of ordinary skill in the art be taught, suggested, or motivated by Nakel I to arrive at the claimed invention.

Accordingly, for at least these reasons, Applicant respectfully submits that currently amended independent claims 23 and 24, and dependent claims 25-38 are allowable over Nakel I.

2. Claims 1-3, 6, 9-10, 15-16, and 19-20 are rejected under 35 U.S.C. § 102(b) as being anticipated by Nakel et al. (U.S. Patent No. 4,737,375, Nakel II) as evidenced by Lange's handbook of Chemistry;

Similar to Nakel I, Nakel II does not disclose a composition containing adipic acid, which is recited in the currently amended independent claims 23 and 24.

Appl. No. 10/628,420
Reply to Office Action of 03/27/2006

Applicant respectfully submits that currently amended independent claims 23 and 24, and dependent claims 25-38 are allowable over Nakel II for the same reasons discussed above with respect to Nakel I.

3. New claims 24 and 26, which correspond to Applicant's original claims 7 and 8, respectively, are rejected by the Examiner under 35 U.S.C. § 103(a) as being unpatentable over Nakel et al. (U.S. Patent No. 4,551,342, Nakel I) as evidenced by Lange's handbook of Chemistry and further in view of Dictionary of Food Ingredients 2001;

Nakel I does not disclose adipic acid as a component of the composition. However, the claimed invention discloses an acidulant system of a lemon/lime flavored beverage consisting of citric acid or a combination of phosphoric acid and citric acid and adipic acid with the ratio of adipic acid : citric acid in the range of 1 : 15 to 1 : 3 and the ratio of adipic acid : phosphoric acid : citric acid in the range of 3.0-4.0 : 1.4-2.0 : 1.0.

The Examiner selected embodiment 2 and calculated the ration of malic acid : phosphoric acid : citric acid as 3.6 : 1.4 : 1.3, which equals 2.77 : 1.08 : 1. The Examiner then concluded the calculated ratio fell within the range recited in the claimed invention. The Examiner further pointed out that it was well known to use the acids listed in shelf stable beverages in different amounts in order to obtain a desired flavor.

Applicant respectfully disagrees with the Examiner. Nakel I does not disclose adipic acid, and adipic acid is not included in the formula of Nakel I that the Examiner used for his calculation. A ratio would not be obtained in the presence of adipic acid without malic acid. Further, the weight percentage of phosphoric acid in embodiment 2 should be taken into account for the calculation. The ratio of malic acid : phosphoric acid : citric acid should be calculated as 3.6 : (1.4 x 85%) : 1.3. The resulted ratio is 2.77 : 0.92 : 1, which is significantly different from the claimed ratio of 3.0-4.0 : 1.4-2.0 : 1.0. In addition, embodiment 4 through 9 in Nakel I disclose ratios of malic acid : phosphoric acid : citric acid as 1 : 3.01 : 1, 1 : 2.98 : 1, 0.33 : 0.33 : 1, 1 : 1.02 : 1, 1 : 3.01 : 1, and 0.16 : 0.08 : 1, respectively. None of the disclosed ratios is close to the ratios recited in the claimed invention. "As in all determinations under 35 U.S.C. section

Appl. No. 10/628,420
Reply to Office Action of 03/27/2006

103, the decision-maker must bring judgment to bear. It is impermissible, however, simply to engage in a hindsight reconstruction of the claimed invention, using the applicant's structure as a template and selecting elements from references to fill the gaps." *See In re Gorman*, 933 F.2d 982, 18 USPQ2d 1885 (Fed. Cir. 1991).

More importantly, as stated in the claimed invention, there are competing interests (1) to raise the pH to improve the stability of a lemon/lime flavored beverage and (2) to maintain or increase the tartness perception. The recited compositions and ratios of the claimed invention provide a method to achieve a higher pH without compromising the tartness perception that is commonly associated with the lemon/lime flavor (see page 3, paragraph [0007] and page 4, paragraph [0014]).

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or reference when combined) must teach or suggest all the claim limitations.

In view of the foregoing, Applicant respectfully submits that at least the above-identified first and third criteria for establishing a prima facie case of obviousness have not been established. Accordingly, for at least this reason, Applicant respectfully submits that claims 24 and 26 are allowable over Nakel I in view of Lange's handbook of Chemistry, and further in view of Dictionary of Food Ingredients 2001.

4. New claims 31 and 32, which correspond to Applicant's original claims 13 and 14, respectively, are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakel et al. (U.S. Patent No. 4,551,342, Nakel I) as evidenced by Lange's handbook of Chemistry and further in view of Kuypers (U.S. Patent No. 4,746,527), and further in view of Lee et al. (U.S. Patent No. 5,348,756).

Appl. No. 10/628,420
Reply to Office Action of 03/27/2006

Applicant respectfully submits that currently amended independent claims 23 and 24 are allowable over Nakel I in view of Lange's handbook of Chemistry, and further in view of Kuypers, and further in view of Lee et al. for the reasons discussed above (see Remarks, sections 1 and 3 on pages 5-9). New claims 31 and 32 depend, directly and indirectly, respectively, on claim 23 and 24. Claims 31 and 32 are therefore also allowable over Nakel I in view of Lange's handbook of Chemistry, and further in view of Kuypers, and further in view of Lee et al., since "[d]ependent claims are nonobvious under section 103 if the independent claims from which they depend are nonobvious." *In re Fine*, 5 USPQ2d, 1586-1600 (Fed. Cir. 1988).

Appl. No. 10/628,420
Reply to Office Action of 03/27/2006

CONCLUSION

In view of the foregoing, Applicant respectfully requests reconsideration, withdrawal of all grounds of rejection, and allowance of all of the claims now present in the application in due course.

Should the Examiner require or consider it advisable that the specification, claims and/or drawings be further amended or corrected in formal respects in order to place the case in condition for final allowance, then it is respectfully requested that such amendment or correction be carried out by Examiner's Amendment and the case passed to issue. Alternatively, should the Examiner feel that a personal discussion might be helpful in advancing this case to allowance, the Examiner is invited to telephone the undersigned.

The Commissioner is authorized to charge any required fees, including any extension and/or excess claim fees, any additional fees, or credit any overpayment to Goodwin Procter LLP Deposit Account No. 06-0923.

Respectfully submitted for Applicant,



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